

Please add new claims 42-44 as set forth below:

42. (New) The photographic element of claim 22 wherein said at least one upper protective shield layer comprises silica.

①3
43. (New) The photographic element of claim 22 wherein said at least one upper protective shield layer comprises pigment.

Sub 31
44. (New) The photographic element of claim 22 wherein said at least one upper protective shield layer comprises polymeric beads.

REMARKS

Basis for the new phrase in claim 22 is in original claim 3. Basis for new claims 42-44 may be found at page 9 lines 8-17.

It is not clear what the status of claims 40 and 41 is in view of the latest Office Action. The cover sheet (PTO 326) indicates that these claims are rejected. However, none of the rejections include claims 40 and 41. These claims were previously allowed. The applicant assumes that they remain allowed claims as they have not been included in any rejection.

In paragraph 1, of the Office Action of November 12, 2002, claims 22-28, 33-37, and 39 stand rejected under 35 USC 103 as being unpatentable over the combination of Trautweiler et al., Tingler et al. (104), and Tingler et al. (505) for the reasons set forth in paragraph 2 of the Office action of July 24, 2002. In the rejection of July 24, 2002 the Examiner states that the Tingler references disclose the need for antistatic layers on opposite sides of supports from silver halide emulsion layers in order to prevent static generation from film processing and handling. The Examiner further states that the Tingler et al. references teach the use of protective layers on the antistatic layers to reduce friction. Further, the Examiner states that the applicant's argument that there is no disclosure in Trautweiler for protective backing layers is unconvincing since the two Tingler et al. patents would motivate one skilled in the art to add antistatic layers and their protective layers to the back of the transparent sheets of Trautweiler in order to provide static protection to the elements of Trautweiler et al. The Examiner states

that the antistatic layers of Tingler et al. would inherently provide finger protection. This rejection is respectfully traversed.

Trautweiler discloses a system for imaging wherein an image is formed on a transparent substrate and then the substrate is adhered to a base with the transparent sheet on the surface through which the silver halide formed image is viewed. There is no disclosure or suggestion in Trautweiler that the upper surface transparent sheet should be provided with a protective layer or shield to protect the surface from fingerprints and spills of liquids. The two Tingler patents disclose the formation of imaging elements provided with an electrically conductive layer and a protective overcoat layer that overlays the electrically conductive layer. The electrically conductive layer apparently is formed onto the base material and not the surface through which the image is viewed. There is no disclosure suggestion of formation of an image on a transparent member that is adhered to a base material. Further, there is no disclosure or suggestion that the protective layer of the Tingler et al. patents which is designed to protect the antistatic layer during photographic development would be suitable for protection from fingerprints and scratching. It appears that the protection is from chemicals during development. Therefore, there is no disclosure suggestion that would lead one to a shield layer for Trautweiler. The teaching of the Tingler et al. patents in the use of overcoats for protection from developers would not lead one to the instant invention which is protection of a finished image from fingerprints and liquid spills. Trautweiler et al. and the two Tingler et al. references do not disclose or suggest the formation of a rough surface in order to prevent finger print formation. The claims are now limited to an upper shield roughness of between 0.01 and 0.06 micrometers at a spatial frequency of between 0.03 and 6.35 mm. This is not disclosed or suggested in any of the references. This roughness provides exceptional finger protection because the finger will only contact the peaks of the roughness and not the lower portions. Therefore, complete fingerprints are not shown on the image as the finger only contacts the print in scattered portions. The Examiner's attention is drawn to Examples 6 and 7 and Table 1 on page 35 where Examples 6 and 7, with the roughness as claimed, provides exceptional finger print resistance. There is no suggestion of such roughness to provide finger print protection in any combination of Trautweiler, Tingler et al. (104), and Tingler et al. (505). Therefore, it is respectfully urged

that this rejection be reconsidered and withdrawn.

In paragraph 2 of the Office Action of November 12, 2002, claims 22-28, 33-37, and 39 stand rejected under 35 USC 103 as being unpatentable over the combination of European Patent 1003073 with Tingler et al. (014) and Tingler et al. (505) for the reasons set forth in paragraph 3, first occurrence, of the last Office Action filed July 24, 2002. The Examiner states that the Bourdelais et al. EP 1003073 publication discloses thin photographic elements comprising polymer supports with silver halide emulsion layers which are exposed, developed and laminated onto opaque base sheets. The Examiner states that the Bourdelais et al. publications disclose the reduction of static by an antistatic backing coat applied to the opposite side from the image layer. The Examiner states that the two Tingler et al. patents disclose antistatic layers and protective layers having excellent physical and mechanical properties that reduce static and reduce abrasion. The Examiner states it is obvious to one skilled in the art to use the antistatic layers of the two Tingler et al. patents for the antistatic backing layers in the European publication. This rejection is respectfully traversed.

The Bourdelais et al. EP publication 10033073 discloses a thin transparent biaxially oriented polymer sheet having an image thereon that is formed and adhered to a reflective substrate to form a print. As pointed out by the Examiner, the thin polymer sheet may have an antistat on the opposite side from the image side. The Tingler et al. references as above discussed disclose the application of antistatic and protective layers to the opposite side of a photographic material from side having the imaging materials. There is no disclosure suggestion in Bourdelais et al. EP 1003073 or the Tingler et al. publications that the layers thereon have fingerprint protection properties and/or protection from spills of liquids. Further, the antistatic layers of the Tingler et al. patents are on the back of the imaging member and it is not disclosed or suggested that they are suitable for viewing of an image. The Examiner has provided no disclosure or suggestion either that the layers of Tingler et al. have fingerprint protection and liquid protection properties or that they are transparent such that an image may be clearly viewed through them. European Patent 1003073 and two Tingler et al. references do not disclose or suggest the formation of a rough surface in order to prevent finger print formation. The claims are now limited to

an upper shield roughness of between 0.01 and 0.06 micrometers at a spatial frequency of between 0.03 and 6.35 mm. This is not disclosed or suggested in any of the references. This roughness provides exceptional finger protection because the finger will only contact the peaks of the roughness and not the lower portions. Therefore, complete fingerprints are not shown on the image as the finger only contacts the print in scattered portions. The Examiner's attention is drawn to Examples 6 and 7 and Table 1 on page 35 where Examples 6 and 7, where the Examples of roughness ridges as claimed are shown to provide exceptional finger print resistance. There is no suggestion of such roughness to provide finger print protection in any combination of EP 1003073, Tingler et al. (104), and Tingler et al. (505). Therefore, it is respectfully urged that this rejection be reconsidered and withdrawn.

In paragraph 3 of the Office Action of November 12, 2002, claims 22-28, 33-37, and 39 stand rejected under 35 USC 103 as being unpatentable over Bourdelais et al. (310) in view of Tingler et al. (314) and Tingler et al. (505) for the reasons set forth in paragraph 3, second occurrence of the last Office Action. The Examiner states that since Bourdelais et al.(310) is only available as a reference under 35 USC 102 (e), the rejection can be overcome by a statement from the applicants' representative that the invention of the instant claims was subject to common assignment with Bourdelais et al. (310) at the time the invention was made. The applicants' representative hereby states that the invention of the instant claims was subject to common assignment with Bourdelais et al. (310) at the time the invention was made. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

In paragraph 4 of the Office Action of November 12, 2002, the Examiner replies to the applicants' arguments filed Oct. 29, 2002. The Examiner urges that the Tingler et al. patents would motivate one skilled in the art to apply antistatic layers and the protective layers to the backs of the transparent polymer sheets of Trautweiler et al. In responding to the applicants' arguments that the two Tingler et al. patents do not teach finger print and liquid spill protection, the Examiner states that the secondary advantages of finger print protection and liquid spill protection does not make claims patentable since the inventions are combined for antistatic protection and spill protection and finger print protection would be inherent. Nevertheless, it is respectfully urged that the inclusion of a

roughness limitation in these claims is not disclosed or made obvious by the references. The Examiner's attention is directed to page 7 lines 11-13 where it is stated that control of finger print may be achieved by inclusion of roughness. At page 17 lines to 21-25 it is also shown that the inclusion of roughness by the use of hard filler particles will provide finger print protection. The Examiner's attention is also directed to the Examples at page 34 where Examples 6 and 7 include particles that form a rough surface and where at page 35 Table 1 shows that this provides the best finger print protection. The formation of a rough surface on the print prevents full contact of the finger with the print thereby greatly minimizing finger printing as the finger can only contact the upper portions of ridges and the finger print is not complete as on a smooth contact surface of the prior art.

In paragraph 5, claims 22-28, 33-37, and 39 stand rejected under 35 USC 102 (e) as being anticipated by Aylward et al. (164). Aylward et al. (164) was filed about two months prior to the instant application. It is commonly assigned and was not published prior to the filing of the instant application. Therefore, it is respectfully urged that this rejection can be overcome by a statement from applicants' representative that the invention of the instant claims was subject to common assignment with Aylward et al. (164). The applicants' representative hereby states that the invention of these claims was subject to common assignment with Aylward et al. (164) at the time the invention was made. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

Therefore, it is respectfully requested that the rejections under 35 USC 102 and 35 USC 103 be reconsidered and withdrawn and that in early Notice of Allowance be issued his application.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "**Version With Markings to Show Changes Made.**"

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul A. Leipold", is written over a horizontal line.

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Version With Markings to Show Changes Made

In the Specification

The paragraph beginning on page 9, line 18 has been amended a set forth below:

To provide abrasion and scratch resistance to the photographic element of the invention, it is desirable to use tough polymers, cross-linked polymer, improve the lubricity of the layers or even add matte particles to aid in the reduction of the coefficient of friction. In addition, it is desirable to provide at least one layer that is electrically conductive to prevent static buildup and discharge. It is desirable to use materials and amounts in any or all of these layers that optically are very clear and do not interfere with the exposure of the photosensitive layers when the exposure is made through the base. Furthermore, these materials should not interfere with the viewing of the final developed and processed photographic image. In this invention the light sensitive [sliver] silver halide may be exposed from either the viewing side through the upper clear shield and transparent base in a right reading format or from the backside in a reverse reading format. Since the imaging member that includes a clear protective shield is substantially transparent, the exposure of the light sensitive silver halide may be made from either side. The preferred format is through the shield and the transparent polymer base. This method is preferred so an antihalation layer may be included on the same side as the light sensitive layer and as the bottommost layer. The antihalation layer helps to improve the sharpness of the image and prevents unwanted secondary exposure. In an additional embodiment of this invention the photographic element further comprises an antihalation layer. The antihalation layer may be either above the image layer and on the opposite uppermost side of the transparent sheet and upper shield or on the bottommost layer of the photographic emulsion. Placing the antihalation above the transparent sheet and the upper shield provides excellent scratch protection for the viewing side of the imaging element of this invention. In this case the antihalation should be in the most upper position because the antihalation materials need to be removed during processing. When the antihalation layer is above the image layer, the light sensitive layers are reversed exposed from the backside. In the preferred

embodiment of this invention, the antihalation materials are below the outer bottommost layer of the light sensitive silver halide layers. This location is preferred because antihalation materials are easily removed during processing and can be applied at the same time as the light sensitive layers, thus avoiding another coating operation. In addition, the antihalation materials provide in the location a means to optimize the sharpness because of immediate proximity to the silver halide layer. Typical materials that are useful for antihalation are solid particle dyes and gray silver in a gelatin binder. The antihalation layer is typically a layer of gelatin with black or gray exposed silver. The purpose of such a layer is to provide improved sharpness and to prevent the reexposure of the silver grains once the light has passes through the emulsion. In a conventional photographic print in which the light sensitive emulsion is on top of the support, a considerable amount of light may be diffusely transmitted by the emulsion and strike the back surface of the support. This light is partially or totally reflected back to the emulsion and reexposed at a considerable distance from the initial point of entry. This effect is called halation because it causes the appearance of halos around images of bright objects. Further, a transparent support also may pipe light. Halation can be greatly reduced or eliminated by absorbing the light transmitted by the emulsion or piped by the support. Three methods of providing halation protection are (1) coating an antihalation undercoat which is either dye gelatin or gelatin containing gray silver on the bottommost layer of the imaging member, (2) coating the emulsion on a support that contains either dye or pigments, and (3) coating the emulsion on a transparent support that has a dye to pigment a layer coated on the top. The absorbing material contained in the antihalation is removed by processing chemicals when the photographic element is processed. The dye or pigment within the support is permanent and generally is not preferred for the instant invention. It is preferred that the antihalation layer be formed of gray silver which is coated on the bottommost side furthest from the viewer and removed during processing. By coating the antihalation on the bottommost part of the backside of the transparent polymer sheet, the antihalation layer is easily removed during processing, as well as allowing exposure of the material from only one side. It has also been found that small quantities of TiO_2 or white pigment added to the non-light sensitive layers such as the ultraviolet layer

furthest from the transparent polymer sheet or size overcoat layer of a typical emulsion provide improved exposure speed and sharpness.

In the Claims

Claim 22 has been amended as set forth below:

22. (Thrice Amended) A photographic element comprising a transparent polymer sheet, at least one layer containing an image formed by development of negative working photosensitive silver halide and at least one upper protective shield layer to protect the surface of said transparent polymer, and adhesively adhered to the lower side of said element a base material wherein said base is substantially opaque and has a transmission of less than 15 percent wherein said at least one upper protective shield provides protection from fingerprinting and spills of liquids and wherein said at least one upper shield layer has a roughness of between 0.01 and 0.06 micrometers at a spatial frequency of between 0.03 and 6.35 millimeters.

Claims 42-44 are new.